DELL EMC NETWORKING N1500 SERIES SWITCHES

Extending enterprise features to small and mid-sized businesses

The N1500 switch series offers a power-efficient Gigabit Ethernet (GbE) network-access switching solution with integrated 10GbE uplinks. With high-performance capabilities and wire-speed performance, utilizing a non-blocking architecture to easily handle unexpected traffic loads, the switches offer simple management and scalability via an 40Gbps (full-duplex) high availability stacking architecture that allows management of up to four switches from a single IP address. An integrated 80PLUS-certified power supply and features such as Energy-Efficient Ethernet and short cable detection provide energy efficiency to help decrease power and cooling costs.

Modernize campus network architectures

Modernize campus network architectures with a power-efficient and resilient 1/10GbE switching solution with Power over Ethernet Plus (PoE+). Select N1500 models offer 24 or 48 ports of PoE+ to deliver clean power to network devices such as wireless access points (APs), Voice-over-IP (VoIP) handsets, video conferencing systems and security cameras.

Leverage familiar tools and practices

All N-Series switches include Dell EMC Networking OS 6, designed for easier deployment, greater interoperability and a lower learning curve for network administrators. One common command line interface (CLI) and graphic user interface (GUI) using a well-known command language gets skilled network administrators productive quickly. With USB auto-configuration, network administrators can rapidly deploy mirrored configurations to numerous devices by simply inserting a USB key.

Deploy with confidence at any scale

N1500 series switches help create performance assurance with a data rate up to 176Gbps (full duplex) and a forwarding rate up to 164Mpps. Scale easily by stacking with 10GbE ports. Switch stacks of up to 200 1GbE ports can be managed from a single screen using the highly available stacking architecture for high-density aggregation with seamless redundant availability. N-Series switches help provide certainty with a lifetime warranty that covers software upgrades, hardware repair or replacement, and optics and cables purchased with the switch. Details at Dell.com/LifetimeWarranty.*

Hardware, performance and efficiency

- Up to 48 line-rate GbE RJ-45 ports and four integrated 10GbE SFP+ ports.
- Up to 48 ports of PoE+ with an optional external power supply.
- Up to 200 1GbE ports in a 4-unit stack for high-density, high-availability in IDFs, MDFs and wiring closets.
- Non-stop forwarding and fast failover in stack configurations.
- Energy-Efficient Ethernet and lower power PHYs reduce power to inactive ports and idle links, providing energy savings from the power cord to the port.
- Fresh Air compliance for operation in environments up to 113°F (45°C) helps reduce cooling costs in temperature-constrained deployments.

Deploying, configuring and managing

- USB auto-configuration rapidly deploys the switch without setting up complex TFTP configurations or sending technical staff to remote offices.
- Management via an intuitive and familiar CLI, embedded web server (GUI), SNMP-based management console application (including Dell OpenManage Network Manager), Telnet or serial connection.
- Private VLAN extensions and Private VLAN Edge support.
- AAA authorization, TACACS+ accounting and RADIUS support for comprehensive secure access support.
- Authentication tiering allows network administrators to tier port authentication methods such as 802.1x, MAC Authentication
- Bypass and Captive Portal in priority order so that a single port can provide flexible access and security.
- Layer 3 Lite IPv4 and IPv6 functionality including static routing and Routing Information Protocol support.
- Remote Switch Port Analyzer (RSPAN) monitors ports across a Layer 2 domain without costly dedicated network taps.
- OpenFlow 1.3 provides the ability to separate the control plane from the forwarding plane for more sophisticated traffic management.

Product	Description
N1500 series	N1524P: 24x RJ45 10/100/1000Mb PoE+ (up to 30.8w) auto-sensing ports, 4x SFP+ ports, 1 integrated 600W PSU (requires C15 plug) N1548P: 48x RJ45 10/100/1000Mb PoE+ (up to 30.8w) auto- sensing ports, 4x SFP+ ports, 1 integrated 600W PSU (requires C15 plug)
Power cords	C13 to NEMA 5-15, 3M C13 to C14, 2M C15 to NEMA 5-15, 2M (C15 for POE N-Series only)
Power supplies (optional)	RPS720 external power supply for N1500 non-POE (720 watts): N1524 and N1548 (sold separately) MPS1000 external power supply for N1500 PoE+ switches (1000 watts): N1524P and N1548P (sold separately)
Optics (optional)	Transceiver, SFP, 1000BASE-T Transceiver, SFP, 1000BASE-SX, 850nm wavelength, up to 550m reach Transceiver, SFP, 1000BASE-LX, 1310nm wavelength, up to 10km reach Transceiver, SFP, 1000BASE-ZX, 1550nm wavelength, up to 80km reach Transceiver, SFP+, 10GbE, SR, 850nm wavelength, up to 300m reach Transceiver, SFP+, 10GbE, LR, 1310nm wavelength, up to 10km reach Transceiver, SFP+, 10GbE, ER, 1550nm wavelength, up to 40km reach
Cables (optional)	Dell Networking cable, SFP+ to SFP+, 10GbE, copper twinax direct

Technical specifications

Physical
4 integrated front 10GbE SFP+ dedicated ports, 2 10GbE can be used as stacking ports
USB (Type A) port for configuration via USB flash drive
Auto-negotiation for speed and flow control
Auto MDI/MDIX, port mirroring
Flow-based port mirroring
Broadcast storm control
Energy-Efficient Ethernet per port settings
Redundant variable speed fans
Air flow: I/O to power supply
Integrated power supply: 40W AC (N1524), 100W AC (N1548), 600W AC (N1524P, N1548P)
RJ45 console port with RS232 signaling (RJ-45 to female DB-9 connector cable included)
Dual firmware images on-board
Switching engine model: Store and forward

Chassis
Size (1RU, H x W x D):
  N1524 and N1548: 1.7 in x 17.3 in x 10.1 in (43.2 mm x 440.0 mm x 257.0 mm)
  N1524P and N1548P: 1.7 in x 17.3 in x 15.2 in (43.2 mm x 440.0 mm x 387.0 mm)
Approximate weight: 6.6lbs/3kg (N1524), 12.8lbs/5.8kg (N1524P), 8.8lbs/4kg (N1548), 15.4lbs/7kg (N1548P)
Rack mounting kit with 2 mounting brackets, bolts and cage nuts

Environmental
Power supply efficiency: 80% or better in all operating modes
Max. thermal output (BTU/hr): 103.1 (N1524), 2972 (N1524P), 152.2 (N1548), 5824.3 (N1548P)

Power consumption max (watts): 30.2 (N1524), 871 (N1524P), 44.6 (N1548), 1704 (N1548P)
Operating temperature: 32° to 113°F (0° to 45°C)
Operating humidity: 95%
Storage temperature: −40° to 149°F (−40° to 65°C)
Storage relative humidity: 85%

Performance
MAC addresses: 16K
Static routes: 256 (IPv4)/128 (IPv6)
Dynamic routes: 256 (IPv4)
Switch fabric capacity: 128Gbps (N1524 and N1524P) (full duplex); 176Gbps (N1548 and N1548P)
Forwarding rate: 128Mpps (N1524 and N1524P); 164Mpps (N1548 and N1548P)
Link aggregation: 64 LAG groups, 144 dynamic ports per stack, 8 member ports per LAG
Priority queues per port: 8
Line-rate Layer 2 switching: All (non-blocking)
Line-rate Layer 3 routing: All (non-blocking)
Flash memory: 256MB
Packet buffer memory: 1.5MB
CPU memory: 1GB
RIP routing interfaces: 128
VLAN routing interfaces: 128
VLANs supported: 512
Protocol-based VLANs: Supported
ARP entries: 2,048 (IPv4)/512 (IPv6)
NDP entries: 400
Access control lists (ACL): Supported
MAC and IP-based ACLs: Supported
Time-controlled ACLs: Supported
Max number of ACLs: 100
Max ACL rules system-wide: 2,048
Max rules per ACL: 1,023

Max ACL rules per interface (IPv4): 1,023 (ingress), 1,023 (egress)
Max ACL rules per interface (IPv6): 512 (ingress), 509 (egress)
Max VLAN interfaces with ACLs applied: 24

IEEE compliance
802.1AB   LLDP
Dell Voice VLAN
Dell ISDP (inter-operates with devices running CDP)
802.1D   Bridging, Spanning Tree
802.1p   Ethernet Priority (User Provisioning and Mapping)
Dell Adjustable WRR and Strict Queue Scheduling
802.1Q   VLAN Tagging, Double VLAN Tagging, GVRP
802.1S   Multiple Spanning Tree (MSTP)
802.1v   Protocol-based VLANs
802.1W   Rapid Spanning Tree (RSTP)
Dell RSTP-Per VLAN (compatible with Cisco's RPVST+)
Dell Spanning tree optional features: STP root guard, BPDU guard, BPDU filtering
802.1X   Network Access Control, Auto VLAN
802.2   Logical Link Control
802.3   10BASE-T
802.3ab   Gigabit Ethernet (1000BASE-T)
802.3ac   Frame Extensions for VLAN Tagging
802.3ad   Link Aggregation with LACP
802.3ae   10 Gigabit Ethernet (10GBASE-X)
802.3at   PoE+ (N1524P and N1548P)
802.3AX   LAG Load Balancing
802.3az   Energy Efficient Ethernet (EEE)
802.3u   Fast Ethernet (100BASE-TX) on Management Ports
802.3x   Flow Control
802.3z   Gigabit Ethernet (1000BASE-X)
ANSI   LLDP-MED (TIA-1057)
MTU   9,216 bytes

RFC compliance and additional features

General Internet protocols
General Internet protocols are supported. For a detailed list, please contact your Dell EMC representative.

General IPv4 protocols
General IPv4 protocols are supported. For a detailed list, please contact your Dell EMC representative.

General IPv6 protocols
General IPv6 protocols are supported. For a detailed list, please contact your Dell EMC representative.

Layer 3 functionality
1058	RIPv1	2082	RIP-2 MD5 Auth
1724	RIPv2 MIB Extension	2453	RIPv2

Multicast
2932 IPv4 MIB   4541 IGMP v1/v2/v3 Snooping and Querier

IEEE 802.1ag draft 8.1–Connectivity Fault Management

Quality of service
2474 DiffServ Field
2475 DiffServ Architecture
2597 Assured Fwd PHB
Dell L4 Trusted Mode (TCP/UDP)
Dell UDLD
Dell Flow Based QoS Services Mode (IPv4/IPv6)
Dell Port Based QoS Services Mode

Network management and security
1155 SMIv1
1157 SNMPv1
1212 Concise MIB Definitions
1213 MIB-II
1215 SNMP Traps
1286 Bridge MIB
1442 SMIv2
1451 Manager-to-Manager MIB
1492 TACACS+
1493 Managed Objects for Bridges MIB
1573 Evolution of Interfaces
1612 DNS Resolver MIB Extensions
1643 Ethernet-like MIB
1757 RMON MIB
1867 HTML/2.0 Forms with File Upload Extensions
1901 Community-based SNMPv2
1907 SNMPv2 MIB
1908 Coexistence Between SNMPv1/v2
2011 IP MIB
2012 TCP MIB
2013 UDP MIB
2068 HTTP/1.1
2096 IP Forwarding Table MIB
2233 Interfaces Group using SMIv2
2246 TLS v1
2271 SNMP Framework MIB
2295 Transport Content Negotiation
2296 Remote Variant Selection
2346 AES Ciphersuites for TLS
2576 Coexistence Between SNMPv1/v2/v3
2578 SMIv2
2579 Textual Conventions for SMIv2
2580 Conformance Statements for SMIv2
2613 RMON MIB
2618 RADIUS Authentication MIB
2620 RADIUS Accounting MIB
2665 Ethernet-like Interfaces MIB
2674 Extended Bridge MIB
2737 ENTITY MIB
2818 HTTP over TLS
2819 RMON MIB (groups 1, 2, 3, 9)
2863 Interfaces MIB
2865 RADIUS
2866 RADIUS Accounting
2868 RADIUS Attributes for Tunnel Prot.
2869 RADIUS Extensions
3410 Internet Standard Mgmt. Framework
3411 SNMP Management Framework
3412 Message Processing and Dispatching
3413 SNMP Applications
3414 User-based security model
3415 View-based control model
3416 SNMPv2
3418 SNMP MIB
3577 RMON MIB
3580 802.1X with RADIUS
3737 Registry of RMOM MIB
4086 Randomness Requirements
4113 UDP MIB
4251 SSHv2 Protocol
4252 SSHv2 Authentication
4253 SSHv2 Transport
4254 SSHv2 Connection Protocol
4419 SSHv2 Transport Layer Protocol
4521 LDAP Extensions
4716 SECSH Public Key File Format
6101 SSL
Dell Enterprise MIB supporting routing features draft-ietf-hubmib-etherif- mib-v3-00.txt (Obsoletes RFC 2665)
Dell LAG MIB Support for 802.3ad Functionality
Dell sflow version 1.3 draft 5
Dell 802.1x Monitor Mode
Dell Custom Login Banners
Dell Dynamic ARP Inspection
Dell IP Address Filtering
Dell Tiered Authentication
Dell RSPAN
Dell OpenFlow 1.3
Dell Python Scripting
Dell Support Assist
HiveManager NG

Regulatory, environment and other compliance

Safety and emissions
Australia/New Zealand: ACMA RCM Class A
Canada: ICES Class A; cUL
China: CCC Class A; NAL
Europe: CE Class A
Japan: VCCI Class A
USA: FCC Class A; NRTL UL; FDA 21 CFR 1040.10 and 1040.11
Eurasia Customs Union: EAC
Germany: GS mark
Product meets EMC and safety standards in many countries inclusive of USA, Canada, EU, Japan, China. For more country-specific regulatory information and approvals, please see your Dell representative.

RoHS
Product meets RoHS compliance standards in many countries inclusive of USA, EU, China, and India. For more country-specific RoHS compliance information, please see your Dell EMC representative.
EU WEEE
EU Battery Directive
REACH

Energy
Japan: JEL
Certifications (available or coming soon)
Available with US Trade Agreements Act (TAA) compliance.
N-Series products have the necessary features to support a PCI-compliant network topology.

IT Lifecycle Services for Networking

Experts, insights and ease
Our highly trained experts, with innovative tools and proven processes, help you transform your IT investments into strategic advantages.

Plan & Design
Let us analyze your multivendor environment and deliver a comprehensive report and action plan to build upon the existing network and improve performance.

Deploy & Integrate
Get new wired or wireless network technology installed and configured with ProDeploy. Reduce costs, save time, and get up and running fast.

Educate
Ensure your staff builds the right skills for long-term success. Get certified on Dell EMC Networking technology and learn how to increase performance and optimize infrastructure.

Manage & Support
Gain access to technical experts and quickly resolve multivendor networking challenges with ProSupport. Spend less time resolving network issues and more time innovating.

Optimize
Maximize performance for dynamic IT environments with Dell EMC Optimize. Benefit from in-depth predictive analysis, remote monitoring and a dedicated systems analyst for your network.

Retire
We can help you resell or retire excess hardware while meeting local regulatory guidelines and acting in an environmentally responsible way.

DELLEMC

Dell Networking X-Series

1/10GbE switches with an intuitive GUI designed to optimize cloud and onsite network applications

The Dell Networking X-Series is a family of smart managed 1GbE and 10GbE Ethernet switches designed for small and medium businesses who crave enterprise-class network control fused with consumer-like ease. X-Series switches have a variety of port counts, PoE options and deployment choices. Setup and management are greatly simplified with an intuitive GUI and hardware design. A broad set of models means deploying capacity on your terms, including the compact 8-port unit designed for desk, wall or ceiling mounting with a smart design.

Practical innovations for small networks

Powerful tools inside an elegant interface with app-like functionality make X-Series switches a pleasure to use. Familiar commands and alerts similar to PCs and servers means there is less jargon to learn and more knowledge to gain. Connect, auto-configure, and power VoIP phones and wireless access points with PoE options.

Sleek navigation with efficient and instinctual work flow

The design of everything from navigation and clicks to menu structures and help tips was inspired by the way IT pros think and work. Streamlined tools, step-by-step wizards and a concise, informative dashboard make switch configuration and calibration fast and accurate. Common tasks, alerts, port status and network visualization are on one beautiful dashboard screen.

Unmatched traffic visibility and real-time control

Optimize cloud services and onsite network applications with security and traffic priority features. See network traffic and move from monitoring to resolving in one continuous sequence. Unique multi-port selection for batch routines plus port profiles for common devices eliminate extra steps and configuration errors.

Lifetime Limited Warranty

Dell Networking X-series switches are backed by an industry-leading, lifetime warranty guaranteeing basic hardware service. X-series switches not only provide the quality, reliability and capability you expect from Dell, but also peace of mind that comes with a true lifetime warranty.
Details at Dell.com/lifetimewarranty.

Key features

- 1 GbE and 10GbE switch family
  - » Compact, fanless 1GbE 8, 18, and 26 port switches with optional Power over Ethernet (PoE/PoE+) support
  - » PoE-powered 8-port switch for flexible office placement (non-PoE model)
  - » Half rack width 26- and 18-port switches with two dedicated 1GbE SFP uplink ports
  - » Rack width 52-port switches with four dedicated 10GbE SFP+ uplink ports
  - » 10GbE 12-port model for high-speed server connect or network aggregation
  - » Layer 2+ IPV4 and IPV6 functionality including static routing
- Revolutionary GUI design for ease of setup and "actionable monitoring"
  - » Powerful tools inside an elegant interface with app-like functionality
  - » Streamlined tools, step-by-step wizards and a customizable dashboard
  - » Common tasks, alerts, port status and network visualization on a single dashboard
  - » Optimize cloud services and onsite network applications with security and traffic priority features
  - » See network traffic and move from monitoring to resolving in one continuous sequence
  - » Multi-port selection for batch routines and port profiles for common devices eliminate extra steps and configuration errors
- Tandem rack tray accommodates two half rack-width switches in 1RU
- Dell Fresh Air 2.0 capable performance with energy-efficient operation
- Patented locking plug and console port

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Legend: **S** — Standard, **OA** — Option Available, **N** — Not Available

Port attributes	X1008/P	X1018/P	X1026/P	X1052/P
10/100/1000Base-T auto-sensing GbE switching	8	16	24	48
SFP/SFP+ fiber ports	N	2 SFP	2 SFP	4 SFP/SFP+
Power over Ethernet (PoE) ports	8 PoE, up to 123W total (X1008P)	16 PoE, up to 246W total (X1018P)	24 PoE/PoE+, up to 369W total (X1026P)	24 PoE/PoE+, up to 369W total (X1052P)
PoE powered	S (X1008)	N	N	N
Power reduction for short cables or inactive connections	S	S	S	S
Autonegotiation for speed, duplex mode and flow control	S	S	S	S
Auto-MDI/MDIX mode and flow control	S	S	S	S
Performance	**X1008/P**	**X1018/P**	**X1026/P**	**X1052/P**
Switch fabric capacity	Up to 16Gbps	Up to 36Gbps	Up to 52Gbps	Up to 176Gbps
Forwarding rate	11.9Mpps	26.8Mpps	38.7Mpps	131Mpps
MAC addresses	16K	16K	16K	16K
Packet buffer memory	1MB	1MB	1MB	1MB
Quality of service	**X1008/P**	**X1018/P**	**X1026/P**	**X1052/P**
Priority queues per port	4	4	4	8
Management	**X1008/P**	**X1018/P**	**X1026/P**	**X1052/P**
Web GUI interface and SNMP monitoring; limited CLI	S	S	S	S
Chassis	**X1008/P**	**X1018/P**	**X1026/P**	**X1052/P**
Dimensions (H x W x D)	1.67 in x 5.95 in x 5.95 in (42.5 mm x 151.13 mm x 151.13 mm)	X1018: 1.62 in x 8.23 in x 9.84 in (41.25 mm x 209.0 mm x 250.0 mm) X1018P: 1.62 in x 8.23 in x 17.72 in (41.25 mm x 209.0 mm x 450.0 mm)	X1026: 1.62 in x 8.23 in x 9.84 in (41.25 mm x 209.0 mm x 250.0 mm) X1026P: 1.62 in x 8.23 in x 17.72 in (41.25 mm x 209.0 mm x 450.0 mm)	X1052: 1.71 in x 17.1 in x 10.63 in (43.5 mm x 434.0 mm x 270.0 mm) X1052P: 1.71 in x 17.1 in x 16.0 in (43.5 mm x 434.0 mm x 407.0 mm)
Rack mount	N	1RU, half width	1RU, half width	1RU
Unit weight	X1008: 0.80 Kg X1008P: 0.83 Kg	X1018: 1.76 Kg X1018P: 3.21 Kg	X1026: 1.88 Kg X1026P: 3.80 Kg	X1052: 3.80 Kg X1052P: 6.00 Kg
Fans	Fanless design	X1018: Fanless design X1018P: 2 (rear)	X1026: Fanless design X1026P: 2 (rear)	X1052: 2 (rear) X1052P: 4 (rear)
Environmental operating conditions	**X1008/P**	**X1018/P**	**X1026/P**	**X1052/P**
100% lead-free	Yes	Yes	Yes	Yes
Operating temperature	0° to 50°C (32° to 122°F)	0° to 50°C (32° to 122°F)	0° to 50°C (32° to 122°F)	0° to 50°C (32° to 122°F)
Storage temperature	-20° to 70°C (-4° to 158° F)	-20° to 70°C (-4° to 158° F)	-20° to 70°C (-4° to 158° F)	-20° to 70°C (-4° to 158° F)
Operating relative humidity	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Storage relative humidity	10% to 80% non-condensing	10% to 80% non-condensing	10% to 80% non-condensing	10% to 80% non-condensing
Acoustic (max dB @ 50°C)	N	X1018: N X1018P: 54.6	X1026: N X1026P: 55.3	X1052: 56.7 X1052P: 58.2

Power	X1008/P	X1018/P	X1026/P	X1052/P
Power supply	X1008: 24W (external) X1008P: 150W (external)	X1018: 40W X1018P: 280W	X1026: 40W X1026P: 450W	X1052: 100W X1052P: 525W
Power (max)	X1008: 9.9W X1008P: 141.8W	X1018: 14.7W X1018P: 289.9W	X1026: 17.5W X1026P: 452.8W	X1052: 60.2W X1052P: 475W
Power (BTU/hr)	X1008: 33.7 X1008P: 484.1	X1018: 50.2 X1018P: 990	X1026: 59.8 X1026P: 1564.3	X1052: 205.2 X1052P: 1620.8

Transceivers

SFP, 1000BASE-T
SFP, 1000BASE-SX, 850nm wavelength, up to 550m reach
SFP, 1000BASE-LX, 1310nm wavelength, up to 10km reach
SFP, 1000BASE-ZX, 1550nm wavelength, up to 80km reach
SFP+, 10GbE, USR ("SR-Lite"), 850nm wavelength, up to 100m reach
SFP+, 10GbE, SR, 850nm wavelength, up to 300m reach
SFP+, 10GbE, LR, 1310nm wavelength, up to 10km reach
SFP+, 10GbE, ER, 1550nm wavelength, up to 40km reach

Cables

Dell Networking cable, SFP+ to SFP+, 10GbE, copper twinax direct attach cable, 0.5m, 1m, 3m, 5m and 7m*

*X4012 does not support 7m cable

Optional Tandem Tray Mounting Kit

1RU tray to accommodate two half rack width X-series switches (kit includes L-brackets for 800mm deep rack/cabinet)
Size (1RU, H x W x D): 1.7in x 17.7in x 19.1in
(43.7mm x 449.4mm x 486.4mm)
Approximate weight: 8.3lbs (3.8kg)

Port attributes

Supports Virtual Cable Diagnostics by Marvell™ and fiber transceiver diagnostics
Integrated LEDs for improved visual monitoring and analysis

VLAN

Supports up to 4096 port-based VLANs. Honors all 4096 VLAN tags

Quality of service

Honor 802.1p values and honor IP DSCP values
Supports strict priority and configurable weighted round robin (WRR) scheduling across queues

Link aggregation

ndustry-standard link aggregation adhering to IEEE 802.3ad standards (static and dynamic, LACP)
Supports 12 link aggregation groups and up to 8 ports per group

Management

Web based GUI management
Local password and restricted IP addresses
Port mirroring
Internal DHCP Server
DHCP client support
Port statistics available through industry-standard RMON
Jumbo frame support for packets up to 9,000 bytes
Broadcast storm control
Uploadable switch software via USB
Uploadable configurations via USB
Configurable as web-managed switch

IEEE standards support

IEEE 802.1D	Spanning Tree, GARP and GVRP
IEEE 802.1p	Traffic Prioritization
IEEE 802.1Q	VLAN Trunking
IEEE 802.1w	Rapid Spanning Tree Protocol
IEEE 802.1S	Multiple Spanning Tree Protocol
IEEE 802.1t	IEEE802.1D maintenance
IEEE 802.1v	VLAN Classification by Protocol & Port
IEEE 802.1x	Port Based Network Access Control
IEEE 802.3	10 Mbps Ethernet
IEEE 802.3I	10base -T
IEEE 802.3u	100Base-T Ethernet
IEEE 802.3z	1000 Mbps Ethernet
IEEE 802.3ab	1000Base-T
IEEE 802.3ac	Frame extension for VLAN tags
IEEE 802.3ad	Link Aggregation Control Protocol
IEEE 802.3ae	10 Gig Ethernet
IEEE 802.2	
IEEE 802.3x	Flow Control
IEEE 802.3I	
IEEE 802.1v	VLAN Classification by Protocol & Port
IEEE 802.1ab	LLDP
ANSI/TIA-1057-2006	LLDP-MEDW

IETF Internet drafts

draft-ietf hubmib-etherif-mib-v3-00.txt	Will obsolete RFC 2665

IETF standards supported

RFC 768	UDP
RFC 783	TFTP v2
RFC 791	IP
RFC 792	ICMP
RFC 793	TCP
RFC 813	Window & Ack Strategy
RFC 879	TCP Max. Segment Size Etc
RFC 896	IP/TCP Congestion Control
RFC 826	ARP
RFC 854	Telnet
RFC 855	Telnet Option Specification
RFC 856	Telnet Binary Transmission
RFC 858	Telnet Suppress Go-Ahead option
RFC 894	IP over Ethernet Frames
RFC 919	Broadcast Ethernet Frames
RFC 922	Broadcast Ethernet Frames with Subnets
RFC 920	Domain Requirements
RFC 950	Internet Standard subnetting procedure
RFC 951	Bootp
RFC 1027	Using ARP to implement transparent subnet gateways
RFC 1042	A Standards for transmission of IP datagrams over IEEE 802 Networks
RFC 1071	Computing the Internet Checksum
RFC 1112	Internet Gateway Management IGMPv1 snooping
RFC 1123	Requirements for Internet Hosts
RFC 1141	Incremental Updating of the Internet Checksum
RFC 1155	Structure and Identification of Management Information (SMI)
RFC 1157	Simple Network Management Protocol (SNMP) version 1
RFC 1350	Trivial File Transfer Protocol (TFTP) Rev. 2
RFC 1518	CIDR-ARCH
RFC 1519	CIDR-STRA
RFC 1533	DHCP options and BOOTP vendor extensions
RFC 1541	Dynamic Host Configuration Protocol (DHCP)
RFC 1542	Clarifications and Extensions for the Bootstrap Protocol
RFC 1612	DNS Client
RFC 1624	Computation of Internet Checksum via Incremental update
RFC 1700	Assigned Numbers
RFC 1812	Requirements for IP version 4 routers
RFC 1867	Form-based File Upload in HTML
RFC 2030	Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI
RFC 2131	Dynamic Host Configuration Protocol
RFC 2132	DHCP Options and BootP vendor Extensions
RFC 2236	IGMPv2 snooping
RFC 2246	TLS protocol, version 1.0
RFC 2284	PPP Extensible Authentication Protocol, EAP, March 1998
RFC 2616	Hypertext Transfer Protocol -- HTTP/1.1
RFC 2818	HTTP Over TLS
RFC 2865	Radius
RFC 2866	Radius Accounting
RFC 2867	RADIUS Tunnel Accounting
RFC 2868	RADIUS Tunnel Authentication Attributes
RFC 2869	RADIUS Extensions
RFC 2925	Definitions of Managed Objects for Remote Ping Traceroute, and Lookup Operations
RFC 2933	IGMP MIB
RFC 3046	DHCP Relay Agent Information Option
RFC 3069	VLAN Aggregation for efficient IP Address allocation
RFC 3164	BSD Syslog Protocol
RFC 3376	IGMPv3 snooping
RFC 3580	RADIUS

IETF standards Management support

RFC 1212	MIB Definition
RFC 1213	MIB II
RFC 1215	Standard Traps
RFC 1286	Bridge MIB
RFC 1442	SMIv2 (SNMPv2 MIB)
RFC 1451	Manager-to-Manager MIB
RFC 1493	Definitions of Managed Objects for Bridges
RFC 1573	Evolution of Interfaces
RFC 1643	Etherlike MIB
RFC 1757	Remote Network Monitoring (RMON) MIB
RFC 1901	Community based SNMPv2
RFC 1907	SNMP v2 MIB
RFC 2011	Internet Protocol (IP) MIB using SMIv2
RFC 2012	Transmission Control Protocol (TCP) MIB using SMIv2
RFC 2013	User Datagram Protocol (UDP) MIB using SMIv2
RFC 2233	Interfaces Group using SMIv2
RFC 2358	Etherlike
RFC 2576	Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework
RFC 2579	Textual Conventions for SMIv2
RFC 2580	Conformance Statements for SMIv2
RFC 2618	RADIUS MIB
RFC 2665	Ethernet-like Interface Types MIB
RFC 2666	Identification of Ethernet Chip sets
RFC 2674	MIB for Bridge with Traffic Classes, Multicast Filtering and VLAN Extension (IEEE802.1p/q MIB)
RFC 2737	ENTITY-MIB
RFC 2819	RMON MIB
RFC 2863	Interface Evolution
RFC 3410	Applicability Statements for SNMP
RFC 3411	An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks
RFC 3412	Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
RFC 3413	Simple Network Management Protocol (SNMP) Applications
RFC 3414	User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)
RFC 3415	View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)
RFC 3584	Coexistence between Version 1, Version 2, and Version 3 of SNMP
RFC 4330	Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI Draft-ietf-magma-snoop-01.txt draft-ietf-syslog-device-mib-01.txt draft-ietf-bridge-8021x-03.txt

IETF standard SNMP traps supported

RFC 1157	linkDown, linkupkUp, authentication Failure, coldstart, ...Traps
RFC 1215	Standard Traps
RFC 1493	newRoot, topologyChange Traps
RFC 3416	Version 2 of the Protocol Operations for the Simple Network Management Protocol (SNMP)
RFC 3417	Transport Mappings for SNMP
RFC 3418	MIB for SNMP

IEEE MIB support

LAG MIB	Support for 802.3ad functionality

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